

### **REMARKS**

In view of the above amendment, applicants believe the pending application is in condition for allowance. This amendment is timely filed as it is accompanied by a petition for a two-month extension of time and the requisite fee. Claims 1-30 are pending. Claims 2, 14, 19, and 20 are currently amended.

### **REJECTIONS UNDER 35 U.S.C. §112**

Claims 2-11, 14, and 18 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Claim 2 has been amended herein to more particularly point out and distinctly recite a “Device...in which the calculation means (C) are furthermore suitable for obtaining a value of the electrical conductivity...,” and claim 14 has been amended herein to more particularly point out and distinctly recite a “Device...in which the calculation means (C) are alternatively suitable for obtaining a value of the electrical conductivity...” Accordingly, amended claims 2 and 14, as well as claims 3-11 and 18, are definite and reconsideration and withdrawal of this rejection is respectfully requested.

Moreover, although not presently rejected, claim 20 has been amended in manner similar to claim 14, for consistency.

These amendments to claims 2, 14, and 20 are neither narrowing amendments nor made for the purposes of patentability.

### **REJECTIONS UNDER 35 U.S.C. §101**

Claims 19-30 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Applicants respectfully traverse this rejection.

As stated in the office action, “[a] claim is limited to a practical application when the method, as claimed, produces a concrete, tangible and useful result...” The office action then states that the “obtained value of dielectric permittivity...” recited in claim 19 is not recited as being communicated by the user, displayed, or stored in any tangible form for later use or access and, therefore, is not a useful concrete, and tangible result. Applicants respectfully disagree.

The dielectric permittivity  $\epsilon_r$  is well adapted for characterizing a dielectric material. For example, paragraph [0099] of the published application states:

FIG. 3 represents for example the structural element 1 in the form of a composite element consisting of a matrix 6, a dielectric material characterizable by its dielectric permittivity  $\epsilon_r$ , and of carbon fibres 7, or of any other suitable imperfectly electrically conducting material, characterizable by its electrical conductivity  $\sigma$ . In a conventional manner, the composite structural element 1 comprises several layers 8a, 8b, 8c, 8d in which the carbon fibres extend in different directions so as to give the structure an orthotropic character. The layers 8a and 8d thus exhibit carbon fibres extending in the direction X, while layers 8b and 8c exhibit carbon fibres extending in the direction Y.

Moreover, paragraph [0108] of the published application states:

The inventors have noted that the detection of the component  $E_y$  of the electric field traversing the structural element 1 made it possible to obtain additional information with respect to the sole detection of the component  $E_x$  of the electric field. With the aid of the two independent components  $E_x$  and  $E_y$  it is possible by calculation to retrieve a value of the two characteristics of the material, namely the electrical conductivity  $\sigma$  of the medium and the dielectric permittivity  $\epsilon_r$  of the matrix.

In particular, the dielectric permittivity is measured for detecting the defects in a structure having dielectric properties. For example, paragraph [0200] of the published application states:

It is moreover possible to employ a database in which, for a structure equivalent to the structure under test, the modifications of the electrical conductivity  $\sigma$  and/or the dielectric permittivity  $\epsilon_r$  respectively have been measured for defects following monitored inputs of energy of a mechanical, chemical and/or thermal nature. On the basis of the values obtained at 19 and 24, it is thus possible, with the aid of this database, to get back to the energy undergone by the structure, and to deduce therefrom the energy received by the structure. It is thus possible to objectively determine whether the tolerance threshold for the structure has not been reached, or whether it is essential to envisage a repair and/or a replacement.

Such defects therefore provide information about the “health” of the structure and, as such, the value of dielectric permittivity constitutes a useful concrete, and tangible result. Accordingly, claim 19, and each claim dependent thereon, constitutes statutory subject matter.

In light of the foregoing, applicants respectfully request reconsideration and withdrawal of this rejection.

### **REJECTIONS UNDER 35 U.S.C. §102**

Claims 1, 13, and 19 stand rejected under 35 U.S.C. §102(a) as being anticipated by Lemistre et al. “Simulation of an electromagnetic health monitoring concept for composite materials. Comparison with experimental data,” Vol. 5047, 2003, pages 130-139 (hereinafter “the Lemistre publication”). Applicants respectfully traverse this rejection.

A prima facie case of anticipation is made out under 35 U.S.C. §102(a) if, within 1 year of the filing date, the invention, or an obvious variation thereof, is described in a “printed publication” whose authorship differs in any way from the inventive entity. MPEP 2132.01. Such a rejection may be overcome by submitting a specific declaration by the applicant(s) establishing that the article is describing applicant’s or applicants’ own work. *Id.* (citing *In re Katz*, 687 F.2d 450, 215 USPQ 14 (CCPA 1982)).

Applicants submit herewith a declaration pursuant to 37 CFR §1.132 signed by both inventors of the present application, Michel B. Lemistre and Dominique M. Placko, and which states that Messrs. Lemistre and Placko are co-inventors of the subject matter disclosed in the Lemistre publication, and the disclosure of that publication is their own invention. *See*, paragraph 3. of the enclosed Declaration of Co-Inventors Michel B. Lemistre and Dominique Placko. Moreover, the declaration states that while the Lemistre publication also identifies a third co-author, Nicolas Liebeaux, Mr. Liebeaux contributed to parts 4 and 5 of the Lemistre publication, which is not a part of, or claimed in, the present application. *Id.* at paragraph 4.

Therefore, the subject matter disclosed in the Lemistre publication is not “by another,” but rather constitutes applicants’ own invention. As such, the present anticipation rejection is traversed and should be withdrawn.

Reconsideration and withdrawal is solicited.

### CONCLUSION

All outstanding rejections have been either traversed, accommodated, or rendered moot. Therefore, the present application is in condition for allowance. Prompt and favorable consideration is respectfully requested.

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Respectfully submitted,

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